

**CLAIMS**

1. A biodegradable polymer having the composition
  - a) from 8 to 80% by weight of a starch modified to include an hydroxyalkyl C<sub>2-6</sub> group or modified by reaction with an anhydride of a di-  
5 carboxylic acid
  - b) from 0 to 87.9% of starch
  - c) from 4 to 11% by weight of a water soluble polymer selected from polyvinylacetate, polyvinyl alcohol and copolymers of ethylene and vinyl alcohol which have a melting point compatible with the molten state of the starch  
10 components
  - d) from 0 to 20% by weight of a polyol plasticiser
  - e) from 0.1 to 1.5 % by weight of a C<sub>12-22</sub> fatty acid or salt and
  - f) from 0 to 12% by weight of added water.

15 2. A composition as claimed in claim 1 wherein component e) is stearic acid.

3. A composition as claimed in claim 1 or claim 2 wherein component c) is a polyvinyl alcohol component.

20 4. A composition as claimed claim 1 wherein the polyol plasticiser is glycerol.

5. A composition as claimed in claim 1 wherein the polymer is thermoformable into rigid packaging products and the polyol plasticiser content is less than 11%.

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6. A composition as claimed claim 5 wherein the polyol plasticiser content is zero and added water is from 10 to 12 %.

30 7. A composition as claimed in claim 1 wherein the polymer contains 10 to 16% of plasticiser and is formed into a flexible film.

8. A composition as claimed claim 7 wherein the water content is zero.

9. A process for forming starch polymer products which includes the steps of
- a) forming a mixture of starch, a modified starch, a water soluble polymer or  
5 copolymer containing vinyl alcohol units, up to 20 % of added water and/or a  
polyol plasticizer and 0.4 to 1.5 % by weight of a C<sub>12-22</sub> fatty acid or salt and
  - b) working the mixture and forming a melt within the temperature range of 130°C  
to 160 °C
  - c) reducing the temperature and further working the mixture and then extruding  
10 the mixture or injecting the mixture into a mould at a temperature of 85 °C to  
105 °C without the need to remove water.
10. A process for forming starch polymer products as claimed in claim 9 wherein  
the polymer is extruded into a sheet and subsequently thermoformed into a  
15 packaging tray.